

Patent Abstracts of Japan

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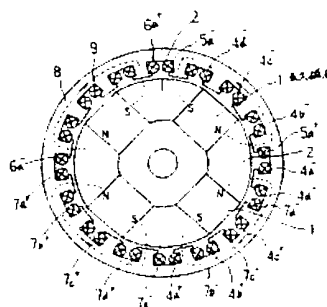
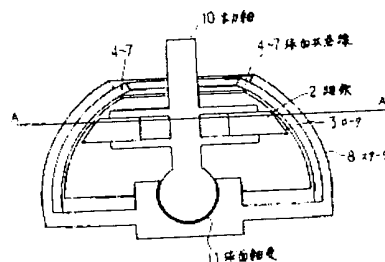
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APPLICANT : NIPPON TELEGR & TELEPH CORP  
<NTT>;

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TITLE : SPHERICAL MOTOR



ABSTRACT : PURPOSE: To miniaturize and lighten a multi-degree-of-freedom actuator by arranging plural sets of windings on a spherical surface and controlling an electric current of each winding.

CONSTITUTION: A spherical motor is composed of a rotor 3 having spherical magnetic poles on the outer periphery by the use of a permanent magnet 1 and a yoke 2, a stator 8 having slots provided with winding groups 4-7 and a spherical bearing 11 rotatably supporting an output shaft 10 united in an integral body with the rotor 3 at three degrees of freedom. In this manner, a torque T about three axes X, Y, Z can freely be controlled by adjustment of an electric current of four windings according to the inclinations  $\theta$ ,  $\phi$  of the output shaft 10.

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